

Response to Office Action dated June 29, 2006  
U.S. Application No.: 09/937,331; filed September 21, 2001  
Inventor: Kunze et al.  
Page 6

**Amendments to the Drawings:**

**Attachment:** An additional sheet of drawings has been added and labeled Fig. 2. The one sheet of drawings originally filed with the application has been labeled Fig. 1.

### **REMARKS**

Claim 13 has been amended. Claims 13-21 are now pending and presented for review. Favorable reconsideration and allowance are requested in light of the foregoing amendments and the remarks which follow.

#### **1. Drawing Amendments**

As discussed below, applicants have amended claim 13 to claim, among other things, a frequency converter configured to change a mains frequency to a different frequency than the mains frequency and supply the power for the electric motor. Applicants acknowledge that the frequency converter was not shown in the drawings filed with the application. In order to cure this deficiency, applicants have added a new schematic drawing illustrating the frequency converter in the switch housing. No new subject matter has been added, as support for the added drawing can be found at page 5 lines 9-11 which states:

In addition to a power switch 5, there is a frequency converter provided in the switch housing 3 which is not shown, which converts the electrical mains frequency fed through the power cable 4 to a higher frequency value required to operate the electric motor. Values of 200 Hertz are common.

The existing drawing has been renumbered "Fig. 1."

#### **2. Amendments to the Specification**

The Written Description portion of the specification has been amended to describe the newly added figure and place the application in better condition for allowance. No new subject matter has been added, as support for these amendments were described above in relation to the

amendments to the drawings.

**3. Rejections Under 35 U.S.C. 102(b), 102(e) and 103(a)**

Claims 13-17 and 21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 4,905,499 to Muria (herein the Muria patent). Claims 13-14 and 21 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by GB 1097651 (herein the GB '651 patent). Claims 13-17 and 21 also stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 5,992,238 to Heimbruch et al. (herein the Heimbruch et al. patent). Claims 18-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the Miura patent or the Heimbruch patent. Applicant traverses the rejections in view of the prior art for the following reasons.

Claim 13, as amended, recites a poker vibrator for densifying a flowing material that includes a vibration unit in which an oscillator with an electric motor is located, a protective and operating tube housing a vibration flask of the vibration unit, **a frequency converter configured to change a mains frequency to a different frequency than the mains frequency and supply the power for the electric motor**, and a mounting unit integrated into the protective and operating tube for accommodating the frequency converter, an operating switch and a measurement device. The measurement device detects at least one operating parameter of the poker vibrator including a motion of the vibration unit, an oscillatory amplitude of the vibration unit, and an oscillatory frequency of the vibration unit. An evaluation circuit evaluates measured values detected by the measurement device and produces a signal based on a measured change in

the measured value that corresponds to a change in a densified state of the material.

None of the cited references provide any teaching or suggestion of incorporating a frequency converter to **change a mains frequency and supply the power for the electric motor** as recited in claim 13. As noted in applicants' specification, one advantage of the present invention is a switching unit, power switch and **frequency converter** within a single switch housing. The frequency converter makes it possible to change the mains frequency into a higher frequency required for the drive motor inside the vibration flask. The frequency converter converts the electrical mains frequency fed through the power cable to a higher frequency value required to operate the electric motor. Such a frequency converter is useful because it permits a vibrator with a polyphase motor of the type which is common on construction sites to be "upgraded" in the sense that it can used with a power source such as a regular or "mains" power supply system (such as a 120C/ 60 Hz monohphase system or a 240V/ 60 Hz polyphase system) rather than the "special" source (such as 48V/ 240 Hz power supply system) normally found on construction sites.

As noted above, no such frequency converter is disclosed in any of the cited references. The Muria patent provides no disclosure of any specific power source for powering the device. The specification merely notes that a detection section 10 is connected via a connector cable 12 to a measuring device having a built-in circuit means. In a previous patent, Muria described a detection circuit means that included a drive circuit for electrically driving the vibrator, and a frequency detection circuit for detecting the variation in the resonance frequency of the vibrator.

(See e.g. U.S. Pat. No. 4,811,592 to Muria). Presumably, the drive circuit disclosed in the cited Miura patent is similar. Regardless, there is no disclosure in either reference of a frequency converter. Furthermore, the applicants note that the Muria device incorporating piezoelectric ceramics is not suited for the rugged construction work of applicants' poker vibrator. Moreover, it would not need the "upgraded" power supply achieved by the frequency converter.

Similarly, the cited GB '651 patent does not disclose any frequency converting device.

The GB '651 patent notes:

The electric motor 6 drives a mechanical vibrating poker 8 through a flexible drive shaft 7. With known types of mechanical vibrating poker driven by an electric motor A.C. current is usually used at **normal mains frequency**, the higher frequency required for the vibration being obtained **by mechanical speed increasing means** within the poker. (Pg. 1, lines 73-79) (Emphasis Added)

The GB '651 patent does not teach or suggest use of a frequency converter to change a mains frequency and supply the power for the electric motor as recited in claim 13.

The Heimbruch et al. patent does not correct the deficiencies of the above cited references. The Heimbruch et al. patent does not disclose any specific power source for the motors. There is absolutely no teaching or suggestion of a frequency converter configured to change a mains frequency and supply the power for the electric motor.

Thus, the cited references do not teach each and every limitation of the claimed invention. Reconsideration and withdrawal of the rejections is respectfully requested.

Response to Office Action dated June 29, 2006  
U.S. Application No.: 09/937,331; filed September 21, 2001  
Inventor: Kunze et al.  
Page 11

Claims 14-21 depend either directly or indirectly from claim 13 and are believed allowable for the same reasons that claim 13 is believed allowable. Claims 14-21 also include patentable subject matter in addition to that recited in claim 13.

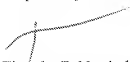
### CONCLUSION

It is submitted that claims 13-21 are in condition for allowance and each defines patentable subject matter. A Notice of Allowance is therefore respectfully requested.

No fees are believed due with this response. Should the Examiner consider any additional fees to be payable in conjunction with this or any future communication, the Director is authorized to direct payment of such fees, or credit any overpayment to Deposit Account No. 50-1170.

The Examiner is invited to contact the undersigned by telephone if it would help expedite matters.

Respectfully submitted,



Timothy E. Newholm  
Registration No. 34,400

Date: September 29, 2006

Customer No. 23598

BOYLE FREDRICKSON NEWHOLM  
STEIN & GRATZ S.C.  
250 Plaza, Suite 1030  
250 East Wisconsin Avenue  
Milwaukee, WI 53202  
Telephone: (414) 225-9755  
Facsimile: (414) 225-9753